Gas Processors Report

Global Gas & NGL Must-Read Projects, Prices & Feedstock and Product Market Intelligence

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PwC's Collier: More M&A Gas Deals in '11, But Smaller Size than in '10

Interest in shale gas plays was a major driver for the U.S. oil and gas industry's M&A (mergers and acquisitions) activity outpacing the overall U.S. market in 2010, according to a recent report from PwC's U.S. Energy Practice. The report found that there were 170 oil and gas deals greater than US$50 million for a combined total of $94.5 billion compared to 88 deals at this price level with a total value of $38.3 billion in the prior year.

"There weren't that many differences in terms of the kinds of deals, the only differences were the number of deals. The only change I see in 2011 in terms of the deal mix is I think there will be more private equity deals. That would naturally suggest more modest-sized transactions. I think you could see the deal volume go up, but the transaction size go down," Michael Collier, U.S. leader of the energy M&A practice at PwC, told *Gas Processors Report*. "I don't see any reason to think deal activity will decline. I think the stage is set for a strong deal market for the duration of this cycle."

Much of the investments being made in the natural gas space will continue to focus on liquids-rich plays due to the heavy price discrepancy between liquids and gas, but long-term players will continue to invest in gas, Collier said. These players – big oil companies both outside and inside the U.S. – can afford to continue to invest in gas because they can allow their returns to develop over a long period of time and can wait for gas prices to turnaround.

"I think we're on the cusp of a major change in the supply-demand equation in the largest economy in the world. It favors gas, and I think that bodes very well for gas investments, but it will take time to realize the economics," he said.

Collier stated that over time the energy industry would begin to see increased use of natural gas, including converting from liquids consumption to gas consumption in some sectors. Obviously this transition will take time and a lot of investment to build the necessary infrastructure.

He noted that there was the possibility of increasing the conversion of truck delivery fleets to compressed natural gas (CNG). "You can see intercity delivery fleets converting to CNG because they come back to the barn at night and you can have the infrastructure right there to refuel these vehicles overnight. They travel short distances at low speeds, which

In This Week's Edition of Gas Processors Report means the weight of the equipment on the truck is manageable, but it will take time and investment."

While there have been discussions about government funding to increase the use of CNG for transportation, Collier said he wasn't sure that this was necessary and that it could prove to be a hindrance for the conversion in the long run.

"I think the question is do you need government subsidies to support the economics? I would suggest whenever the price of liquids goes up so high then you don't need government subsidies. The people I talk to that have capital to deploy seem to be losing interest in investments that are government subsidized. You have to take on so much uncertainty when you make an investment decision – is the market going to be there? Is the technology going to work? What are the commodity prices going to do? You add another level of uncertainty with subsidies, which is what happens with the regulatory environment? That results in people being much more attracted to investments that do not rely on government subsidies," he said.

If the investment opportunity has the capability to stand on its own without subsidies, it is much more attractive to investors, but oil prices would need to increase substantially for this to occur.

So with all this in mind, the economics to support gas will most likely not present themselves for the next three to five years until the supply-demand equation favors an increase in gas prices. However, Collier noted that the wildcard in this estimate is the decline rates in the shales. "If the decline rates turn out to be greater than what the models are telling us now, then the supplies coming into the sector won't grow as rapidly and that could put upward pressure on prices."

As the gas industry continues to recover from the economic downturn of the last few years, Collier anticipates the MLP (master limited partnership) market to do the same with more IPOs in the space. "Plenty of new midstream companies are going to be born out of this change in the supply-demand equation, and many of these companies will be management teams that step out of their companies to build new infrastructure and midstream systems. Many of them will be private equity-backed. They're looking for an exit, and the exit will be to sell to another company or go public."

He added that the most interesting trend in the MLP space at this time is the relocation of the IDRs (incentive distribution rights) from the GPs (general partners) to the LPs (limited partnerships). "Across the industry this is happening and that's changing, in some fundamental ways, the kinds of deals that MLPs want to do and whether they will go public or not. The emphasis is less on doing deals and more on the quality of the operations."

With the industry needing more gas infrastructure, he anticipates MLPs focusing on building new pipelines, gathering systems, compressor stations and processing plants as well as redirecting the flow of some current pipelines. "I think that's where the MLPs will be focusing their time and attention – to raising capital to build new infrastructure and replacing aging infrastructure," he said.

Some of this investment will still be coming from private equity-backed groups, but Collier anticipates these groups shifting from greenfield projects to more mature holdings in the midstream. As private equity companies come off the sidelines, he expects there to be two groups: those that have been involved in the arena and know it's an insider's game and newer funds that will find it more challenging to complete deals.

Collier said that there are a lot of complexities involved in the midstream that could hinder the abilities of newer funds to successfully compete. These include having the capability to forecast volumes and earnings, know how much money will need to be spent on equipment upgrades, maintenance and expansion, as well as understanding the different contracts involved in processing and storage.

"There's just a lot of technical details to sift through, and if you're new to the industry you'll miss a lot of those nuances, and you won't be competitive. You'll either pay too much for the asset and have a hard time achieving the necessary returns, or you'll bid too little for the asset, and someone else will own it," he said.

– Frank Nieto

INSIDE LOOK AT PROCESSING TRENDS

Enterprise Anticipates Mont Belvieu Fractionators Returning to Full Rates Imminently

Yesterday, Enterprise Products Partners LP updated the operating status of its Mont Belvieu complex, which experienced an explosion last week at its west storage facility, on a conference call to discuss fourth-quarter 2010 earnings.

"Operational since last week, we have focused on returning our Mont Belvieu facilities to as close to the same capabilities as we had prior to the event. None of our gas processing plants were curtailed as a result of the event, and we have diverted y-grade to our fractionators and third-party fractionators. None of our propylene assets were affected, and our butane isomerization plants continued to run," Mike Creel, president and CEO of Enterprise, said. The incident also did not affect the company's fifth fractionator at the site that is currently under construction and scheduled to come online in late 2011/early 2012.

The company has been operating its fractionators at reduced rates while making the necessary piping changes to navigate from the west storage area. "Three of our Mont Belvieu fractionators are running now, and we expect to have the fourth fractionator up tonight [February 17] and to have the Mont Belvieu fractionators running at full rates by tomorrow [February 18]. We also expect to have full connectivity between our north storage area where our fractionators and other plants are located and our east storage area by the middle of next week," he said.

Enterprise has also been working with individual customers to make piping modifications in order to restore their delivery and receipt capabilities. Creel noted that the west storage facility represented less than 16% of its storage capacity and receipt and delivery rates at Mont Belvieu. Nevertheless, the company is planning to build in redundancies in order to ensure that future disruptions of a similar nature will not occur in the future.

For the year 2010, the company handled record volumes due to increased production out of the shale plays, as well as increased demand for natural gas liquids (NGL) from the petrochemical and international markets. This enabled the company to generate a record US$3.3 billion in gross operating margin along with a record net income of $1.4 billion.

"This past quarter, broad energy metrics remained favorable for NGLs and natural gas processing, with the relationship between crude and natural gas averaging about 27% of crude on a Btu basis. In combination with strong petrochemical demand as well as strong export demand, this is keeping fractionation spreads healthy, and we're seeing producers continue to focus drilling on rich gas plays," Jim Teague, the company's executive vice president and chief commercial officer, said.

He added that the company's pipelines and fractionators are running at full capacity along with its processing plants in the Rockies which is a situation that he anticipates continuing as Enterprise believes that the bulk of the major plays it participates in: the Piceance, Jonah-Pinedale, Eagle Ford and Haynesville, have over 20 years of drilling locations left. In addition, the company continues to monitor roughly 20 other plays near its existing assets

"Most of the shale drilling has been driven by must-drill leasehold obligations and producer economics should improve when they move to infield drilling since the roads, drilling pads, gathering and treating equipment infrastructure are already established," Teague said.

He also anticipates ethane demand to continue to grow from its highs in Q4 2010. "We saw instantaneous consumption of ethane reach historic levels and the industry's ability to consume ethane even outpaced the growth in ethane production. Last quarter, I said that we expected ethane consumption to top a million barrels a day by 2015. The industry topped that shortly before Christmas. Frankly, that jump in consumption exceeded our optimistic view at that time. However, remember what we said last quarter: never underestimate the U.S. chemical industry's ability to consume more ethane," he said.

– Frank Nieto

Boardwalk Considers Expanding into Processing

Boardwalk Pipeline Partners LP officials announced that the company is considering expanding its focus further from transportation services to possibly adding gathering and processing services.

During a recent conference call to discuss fourth-quarter 2010 results, Rolf Gafvert, the company's president and CEO, remarked that the company is considering expanding its service offerings to include gathering and processing that would complement its business strategy.

"With regards to gathering and processing, we are focused right now in the Eagle Ford area. Although, if you look at our pipeline assets, we have significant assets in many of the shale plays and we see gathering opportunities really across all of those shale plays, but we're currently focused on the Eagle Ford," he said.

When asked if the company would consider building a processing plant, Gafvert said that the company is looking at the possibility of constructing a plant between Corpus Christi and Houston. "[We would] construct the processing plant at that location and then work with others to provide liquid solutions for the processed liquids and then retransport the gas to other markets…We have roughly 350 million cubic feet per day (MMcf/d) of capacity on the pipeline that we're looking at converting to rig service, so that kind of gives you an idea of the scope of the project," he said.

Boardwalk is also anticipating growth opportunities for its pipeline system as more and more power plant operators switch from coal to natural gas.

"Boardwalk currently serves approximately 40 power generation facilities and we are optimistic about our opportunities to serve this market. In the short term, many industry experts are forecasting increased natural gas utilization for power generation, as operators switch from coal to gas in order to take advantage of favorable natural gas pricing caused by abundant natural gas supply," Gafvert said.

He added that he expects this number to grow over the next five years due to its pipeline footprint, where operators are expected to replace roughly 100 coal-fired power generators within 20 miles of its footprint that are more than 40 years old.

However, the biggest area for growth will remain expansion projects. The company ended 2010 with all of its major expansions in service and operating at their design capacity, including its Haynesville expansion that added 600 MMcf/d of capacity to the system.

Also completed in 2010 were the Gulf Crossing, Fayetteville and Greenville compressor projects that increased capacity. Such expansion projects helped the company experience an 8% increase in operating revenues for the quarter to US$302 million as well as a 14% increase in EBITDA (earnings before interest, taxes, depreciation and amortization) to $184 million.

Gafvert said that storage expansion projects represented further growth opportunities for the company. "Boardwalk has completed several storage expansion projects over the last few years and we are continuing to explore new opportunities. Additional storage capacity located near our footprint can help support integrated transportation and storage services that are utilized by power generation companies and local distribution companies in order to meet peak demand," he said. – **Frank Nieto**

Spectra Energy Highlights Need to Grow Safely

While speaking at the recent Credit Suisse Group Energy Summit in Vail, Colorado, Spectra Energy's CFO Pat Reddy emphasized the need for the company to focus on three areas for the future: maintaining safe and reliable operations, providing strong customer response and creating profitability and financial flexibility.

"While we're investing in significant growth opportunities, at the same time we are also focused on day-to-day project execution and operational excellence. Across our company each year we commit about US$600-700 million in maintenance capital to make sure that our assets operate to the highest standards of safety, reliability and customer service," he said.

Although this figure is impressive, the company spends more than $1 billion a year on its growth strategy. "We look at every decision that we make through the lens of long-term value creation," he said. In terms of customer responsiveness, Reddy noted that Spectra Energy maintained a 95% contract renewal rate on its major pipelines through long-term, fixed-price contracts.

This strategy has seen the company continue to grow at an impressive rate with its assets connecting into the majority of the largest producing areas in the U.S. and Canada, including four out of the top five fastest-growing markets in the U.S. in addition to interconnecting to all of the major pipelines in the lower 48.

"Our pipeline storage and gathering and processing assets position us to take full advantage of the developing shale basins in North America. Just to name a few, the Horn River, Montney in Western Canada, Eagle Ford, DJ basin, as well as the Marcellus. I am not aware of any other natural gas infrastructure company in North America that can lay similar claims to the strategic profile that we enjoy today," Reddy said.

Between its 2007 spin-off from Duke Energy and 2010, the company has placed 47 projects totaling $4 billion into service with an average return on capital of 14.5%. Continuing with this growth strategy of $1 billion per year over the next five years, the company would experience an expansion EBIT (earnings before interest and taxes) of between $500-600 million during this timeframe. "By the end of 2015, we expect to have created cumulative incremental annual EBIT of well over $1 billion from these projects since becoming an independent company," Reddy said.

One of the bigger growth projects for Spectra Energy include its proposed extension of its Texas Eastern Transmission and Algonquin Gas Transmission pipelines that will bring up to 800 million cubic feet per day of gas from the Marcellus shale into the New York/New Jersey region (*see Gas Processors Report 12/30/09*). "This is a great example of the kind of growth that we are pursuing. It's an important project that will bring much-needed clean-burning natural gas both to New York but also to New Jersey and it expands our footprint in the high-growth area of New York City including direct access to Manhattan, which is a first to us," he said.

The company also continues to eye British Columbia as a growth region. By 2013, Spectra Energy anticipates investing roughly $1.5 billion on its series of Fort Nelson project to process and transport natural gas from the Horn River, as well as incremental Montney volumes from the Fort St. John area. Reddy said that according to estimates from producers, estimated volumes in the Horn River and Montney amount to approximately three Barnett shales.

The likely conversion of coal- and oil-fired power generation to gas-fired generation is another area that can be an impetus for growth. "We expect natural gas consumption growth to be driven by gas-fired electric generation and the conversions around the country…From Tennessee, Kentucky and Ohio, up to Massachusetts there are approximately 46 coal-fired units representing about 51,000 megawatts of electric-generating capacity all within 30 miles of our pipelines. That's 10 billion cubic feet per day of gas opportunity," he said while noting that if the company captured just 5% of this opportunity, it will represent a 10% increase in demand in its market areas.

He noted that natural gas at prices between $4-6 per thousand cubic feet is very competitive with coal-fired generation. "The major electric companies that have plants along our system must have become persuaded about the attractiveness of natural gas given the level of interest in the ongoing discussions that we're having," Reddy said.

He added that the majority of plants in this region were built between 1918 and 1932, which means that the utilities that own them must decide whether to replace these facilities with those operating on "clean" coal or a combined cycle natural gas facility. "Based on the discussions we're having, the sentiment seems to be tipping our way."

The week prior to the Credit Suisse conference, the company hosted its conference call to discuss its Q4 2010 earnings, Greg Ebel, president and CEO of Spectra Energy, commented on the proposed Marcellus Ethane Pipeline System that it is co-developing with El Paso Corp. to transport up to 60,000 barrels per day of ethane from the Marcellus to the Gulf Coast (*see Gas Processors Report 10/27/10*).

"Until producers are certain they've got a market … they're not going to sign up for fixed charges associated with pipelines. I think this is going to continue to shake out over the next several months, maybe even 12 months before there's a definitive plan," he said. Should the partners receive firm commitments, he said it would take approximately 12-18 months of development time for the project to be brought online. – Frank Nieto

MIDSTREAM NEWS

ETP to Build Eagle Ford Pipeline, Facilities for US$300M

Energy Transfer Partners LP entered multiple long-term agreements with shippers to provide additional transportation services from the Eagle Ford shale in South Texas. To facilitate these agreements, ETP will construct a natural gas pipeline, a processing plant and additional facilities at an approximate cost of US$300 million.

These projects will expand the partnership's extensive midstream infrastructure in the Eagle Ford, which includes the recently completed Dos Hermanas Pipeline and the Chisholm Pipeline that is scheduled for completion in the second quarter of 2011.

The 160-mile, 30-inch Rich Eagle Ford Mainline (REM) will have a capacity of 400 million cubic feet per day, with the ability to expand capacity to 800 million cubic feet per day. This rich gas gathering system, which is expected to be in service by the fourth quarter of 2011, will originate in Dimmitt County, Texas, and extend to the partnership's Chisholm Pipeline for ultimate deliveries to the partnership's existing processing plants and to a new 120,000 cubic feet per day processing plant.

Jobs and the Shales

Last November, post-election polling clearly showed that the No. 1 U.S. voter concern was job creation. Despite economic variables pointing to an ongoing economic recovery in 2010, millions of unemployed Americans failed to land a job. The unemployment rate remained slightly below double digits as of early 2011, and forecasts for year-end unemployment topped 9%.

One sector of the American workforce – oil and gas extraction – fared much better compared to other occupations in the U.S. According to the Bureau of Labor Statistics (BLS) only 7,000 employees lost their jobs in exploration and production from the onset of the Great Recession to mid-2009, when the industry started hiring again.

Baker Hughes Inc. registered a drop in the total U.S. rig count from slightly more than 2,000 in mid-1998 to fewer than 1,000 one year later, but the industry shed only 4% of E&P-related jobs during this time.

Since mid-2009, more than 700 rigs have been put back to work, and employment levels have rebounded above 167,000 – a multi-decade high.

E&P employment has proved resilient because energy is the lifeline for any industrialized economy. Domestic energy production is good not only for national security but also for the economy. Employment in the energy industry results in formal sector job creation that pays a higher wage, along with federal, state and employment tax revenue – something that the U.S. federal government and many state governments desperately need.

One reason job creation in the oil and gas industry has been so robust is the onset of horizontal drilling for unconventional natural gas and oil. Before 2005, only 10% of domestic rigs drilled horizontal wells, according to Baker Hughes data dating back to 1991. As of December 2010, however, horizontal drilling accounted for 56% of all wells drilled in the U.S. American technology and innovation have allowed more than 150 companies to extract oil and gas from fields that were previously considered inaccessible.

Horizontal drilling for first, unconventional gas, and now, unconventional oil, is a game-changer in the energy industry for several reasons. Timothy Considine, professor of economics at the University of Wyoming, speaking at Hart Energy's DUG-East event this past fall, noted that "past oil and gas development plays . . . have a burst of initial development," but then "the labor impact drops off." Shale development, however, is different.

First, unconventional oil and gas production is more akin to a manufacturing process than conventional production. Large numbers of wells for horizontal drilling are needed to tap unconventional resources versus the number needed for conventional development. Horizontal completions are more labor intensive than conventional completions, requiring a tremendous amount of business-to-business activity involving the local population throughout the producing well's life cycle.

Second, small businesses, in general, create more local jobs than do the supermajors. Hence, unemployment in shale oil and gas producing counties is much lower than the national average. Yet, as independents give way to supermajors in developing unconventional resources, the deep pockets of the big integrated oil and gas companies will ensure sustainable investment in shale oil and gas production.

Finally, the nature of unconventional development is also a boon for local landowners, who receive lease bonus and royalty payments from production on their lands. Shale plays spread the money around, benefiting individuals and companies in the local economy.

The link between job creation in the oil and gas extractive industry and horizontal well development in the U.S. is strongly correlated. Data from the BLS and Baker Hughes shows a correlation of 0.76 since January 2005.

Professor Considine has done some groundbreaking work in demonstrating the impact of shale development (or number of wells drilled) on county-level job creation and unemployment levels. According to the study, the development of the Barnett shale play created 132,497 jobs in 2008, and development of the Marcellus shale led to 57,357 more jobs in 2009.

The map of U.S. unemployment by county demonstrates that in areas where there is a significantly higher rig count, unemployment is much lower than the national average.

Of course, the industry is changing again. While natural gas rigs dominated from 2005 to 2009, the oil rig count has surged of late. Since January 2009, gas drilling rigs have fallen by 38% as natural gas prices hover in the $4 per million Btu range. Oil prices, however, have rebounded to the $90-per-barrel mark – making even marginal oil production extremely profitable. Consequently, the number of rigs drilling for oil has risen 27% since the beginning of 2009.

Given the rising bill for crude oil imports that American consumers are paying via higher current account deficits, it is difficult to fathom why some state governments have acted against shale oil and gas development. Crude oil imports in 2011 will most likely register their second-highest level ever, according to our analysis of U.S. Census Bureau data. Over the past five years, oil imports varied from 1.3% to 2.7% of U.S. gross domestic product.

Although obtaining self sufficiency in oil is not possible, cutting imports could reduce outflows of U.S. dollars and lower the current account deficit while adding jobs and tax revenue to state and federal ledgers. Policies designed to thwart shale development damage our national economy and curtail tax receipts for state governments that are facing stiff deficits.

Foreign national oil companies are scooping up American technology to develop their own shale-gas and oil plays in an effort to help fulfill national-security objectives and create jobs. International oil companies are investing because they appreciate the huge in-place resource and see the potential for continued improvement in well recoveries as they hone the extraction technologies. It is high time that American legislators understood how the market dynamics of shale oil and gas development create high-paying formal sector jobs to lower unemployment and help pull the U.S. out of its massive fiscal hole.

– **Mike Warren**, *from Hart's Oil and Gas Investor*

API: Obama Admin's Tax Hike Will Cut Gov't Revenue

Raising taxes on the oil and natural gas industry, as the Obama administration is proposing in its budget, would harm job creation and lower government revenues in the long run, according to the American Petroleum Institute's (API) president and chief executive Jack Gerard.

Gerard noted that the government's proposal to raise taxes on the U.S. oil and natural gas industry is "a bad idea" during one of the worst times in America's economic history. "The administration continues to ignore the fact this industry is among the nation's largest job creators and delivers enormous revenues to government at all levels," he said. "The industry pays income taxes, royalties and other fees totaling nearly $100 million every day, and pays income tax at an effective rate far higher than most other industries.

"Besides eliminating thousands of new potential jobs, the increases, over the long term, would actually lower revenue to the government by many billions of dollars as a result of foregone revenues from projects the tax hikes would prevent going forward."

The irony, Gerard continued, is that the administration wants to increase taxes on the oil and gas industry to fund the creation of additional green jobs. "But the industry is already doing that more efficiently and with less burden on American taxpayers through its own green investments," he said.

According to Gerard, the oil and gas industry has invested more than $58 billion from 2000 to 2008 on low- and no-carbon energy technologies, or "more than the government and the rest of the private sector combined," he noted.

API represents more than 450 oil and gas companies, leaders of a technology-driven industry that supplies most of America's energy, supports more than 9.2 million U.S. jobs and 7.5% of the U.S. economy. Since 2000, the oil and gas industry has invested nearly $2 trillion in U.S. capital projects to advance all forms of energy, including alternatives, according to API data.

FRACTIONATION SPREAD

Ethane Margins Experience Huge Improvements

After weeks of declining ethane frac spread margins, the margins experienced huge gains this week at both Mont Belvieu and Conway on the back of both large price increases at both hubs as well as significant price decreases for natural gas feedstock prices.

With natural gas prices falling 17% to US$3.74 per million Btu (/MMBtu) at Conway, the ethane frac spread margin improved by a staggering 97% as the margin firmly returned to a profitable state. The Mont Belvieu margin was helped by a 9% decrease in natural gas prices at the hub to $3.85/MMBtu, which saw the frac spread margin rise 51% from last week. These improvements were largely due to the decreased supplies of ethane that are connected with the lessened processing capacity coming out of Enterprise Products Partners' Mont Belvieu complex due to last week's explosion at the site.

Across the board natural gas liquid (NGL) margins were up at both Conway and Mont Belvieu due to these lower gas prices combined with largely improved NGL prices at both hubs.

The smallest gain in margin at Mont Belvieu was C_{5+}, which rose 3%, while propane had the smallest gain in margin at Conway with a 6% improvement.

The second-largest gain in margin at both hubs was isobutane, which began to see improved demand with more refiners beginning to switch to summer grade gasoline. The Conway margin rose 11% while the Mont Belvieu margin was up 7%.

These margin improvements were experienced in the theoretical NGL barrel margins with the Conway margin up 11% to US$36.78 per barrel (/bbl) on the back of a 2% price improvement to $50.44/bbl. The Mont Belvieu theoretical

FRACTIONATION SPREAD

Ethane Margins Experience Huge Improvements *(continued)*

NGL barrel margin rose 9% to $40.47/bbl on the back of a 4% price improvement to $54.54/bbl.

The most profitable NGL to make at both hubs remained C_{5+} at $1.78 per gallon (/gal) at Conway and $1.77/gal at Mont Belvieu. This was followed, in order, by isobutane at $1.53/gal at Conway and $1.46/gal at Mont Belvieu; butane at $1.20/gal at Conway and $1.30/gal at Mont Belvieu; propane at 90¢/gal at Conway and 98¢/gal at Mont Belvieu; and ethane at 20¢/gal at Conway and 39¢/gal at Mont Belvieu.

Natural gas storage levels continued to decrease with the U.S. Energy Information Administration's most recent data stating that the storage level fell 233 billion cubic feet to 1.911 trillion cubic feet (Tcf) the week of February 11, the most recent data available, from 2.144 Tcf the previous week. This was 7% lower than the 2.052 Tcf storage level reported last year at the same time and 6% lower than the five-year average of 2.039 Tcf.

The U.S. National Weather Service's forecast for the coming week includes largely normal late winter temperatures throughout the Midwest into the Northeast with warmer than normal temperatures in the Southeast. Colder than normal temperatures are expected throughout the Rockies into the West Coast. – Frank Nieto

Current Frac Spread (Cents/Gal)
February 18, 2011

	Conway	Change from Last Week	Mont Belvieu	Last Week
Ethane	45.02		64.13	
Shrink	24.80		25.53	
Margin	20.22	96.63%	38.60	51.30%
Propane	124.10		133.66	
Shrink	34.26		35.27	
Margin	89.84	6.07%	98.39	3.93%
Normal Butane	158.90		169.64	
Shrink	38.78		39.92	
Margin	120.12	8.32%	129.72	5.41%
Iso-Butane	189.88		184.28	
Shrink	37.25		38.35	
Margin	152.63	11.00%	145.93	6.59%
Pentane+	219.20		220.00	
Shrink	41.48		42.70	
Margin	177.72	6.21%	177.30	3.02%
NGL $/Bbl	50.44	2.01%	54.54	3.82%
Shrink	13.66		14.06	
Margin	36.78	11.42%	40.47	9.15%
Gas ($/mmBtu)	3.74	-16.89%	3.85	-8.98%
Gross Bbl Margin (in cents/gal)	84.28	11.54%	94.31	9.28%
NGL Value in $/mmBtu				
Ethane	2.48	12.21%	3.53	19.73%
Propane	4.31	-1.45%	4.64	0.18%
Normal Butane	1.72	0.85%	1.83	1.63%
Iso-Butane	1.18	4.14%	1.15	2.93%
Pentane+	2.83	0.91%	2.84	0.45%
Total Barrel Value in $/mmbtu	12.51	2.40%	13.99	4.99%
Margin	8.77	13.65%	10.14	11.49%

Price, Shrink of 42-gal NGL barrel based on following: Ethane, 36.5%; Propane, 31.8%; Normal Butane, 11.2%; Isobutane, 6.2%; Pentane+, 14.3%, Fuel, frac, transport costs not included. Conway gas based on NGPL Midcontinent zone, Mont Belvieu based on Houston Ship Channel.

Shrink is defined as Btus that are removed from natural gas through the gathering and processing operation.

BOX SCORE

Mont Belvieu Ethane Surges 11% Due to Shortage

Last week's explosion at Enterprise Products Partners' Mont Belvieu complex caused a shortage of ethane supplies and resulted in prices at both Mont Belvieu and Conway to surge this week.

The Mont Belvieu price rose 11% to 64¢, their highest price since they were 65¢ the week of December 22. On February 15, the price of Mont Belvieu ethane had reached 73¢, the highest single day price at the hub since March 3. The Conway price rose 6% to 45¢, its highest price in six weeks. It is expected that as access to ethane increases as Enterprise restores the Mont Belvieu complex that ethane prices will weaken.

Isobutane prices had the second-largest increases at both hubs as it begins to benefit from refiners alkylate to create summer-grade gasoline. At Mont Belvieu the price rose 3% to US$1.84, the highest price at the hub since it was $1.98 the week of August 6, 2008. The Conway price rose 4% to $1.90, the highest price at the hub since it was $1.92 the week of August 13, 2008. In addition, the Conway price surpassed the $2 threshold on February 15 as it reached $2.05. This was the highest single day price at the hub since it was $2.09 on August 12, 2008.

Box Score						
Mont Belvieu	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
Feb. 9 - 15, '11	64.13	133.66	169.64	184.28	220.00	$54.54
Feb. 2 - 8, '11	53.56	133.42	166.92	179.04	219.02	$52.53
Jan 26 - Feb. 1, '11	58.12	134.38	168.84	179.04	214.12	$53.11
Jan 19 - 25, '11	60.58	135.48	168.52	181.06	214.18	$53.67
January '11	59.41	134.69	168.71	178.54	214.96	$53.39
December '10	61.75	129.45	169.76	177.25	209.47	$52.77
4th Qtr '10	59.07	126.07	162.01	168.24	198.89	$50.59
3rd Qtr '10	44.99	106.98	138.23	143.25	171.45	$42.37
2nd Qtr '10	50.97	108.43	145.01	157.23	178.04	$44.64
1st Qtr '10	70.80	123.84	151.72	165.09	183.29	$50.45
Feb. 10 - 16, '10	74.91	126.33	148.93	165.80	180.40	$51.06
Conway, Group 140	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
Feb. 9 - 15, '11	45.02	124.10	158.90	189.88	219.20	$50.44
Feb. 2 - 8, '11	40.12	125.92	157.56	182.33	217.23	$49.45
Jan 26 - Feb. 1, '11	44.44	125.54	161.82	181.83	208.80	$49.75
Jan 19 - 25, '11	41.92	129.22	164.18	182.45	209.40	$49.95
January '11	44.01	128.53	162.52	174.39	207.59	$49.79
December '10	51.74	124.32	167.51	170.70	205.49	$50.57
4th Qtr '10	47.01	120.80	157.16	161.69	193.86	$47.80
3rd Qtr '10	31.16	101.46	132.39	141.93	163.91	$39.04
2nd Qtr '10	31.56	103.03	130.96	145.20	172.55	$39.90
1st Qtr '10	59.82	123.81	143.58	160.70	181.55	$48.69
Feb. 10 - 16, '10	65.18	129.10	138.65	159.30	178.65	$49.71

Data Provided by Intercontinental Exchange. Individual product prices in cents per gallon. NGL barrel in $/42 gallons

Butane continued to benefit, like the other heavies, from its stronger relationship to crude oil, but as more refiners begin to halt production of winter-grade gasoline and prepare for summer-grade gasoline, its growth hasn't been as strong as isobutane. The Mont Belvieu price rose 1% to $1.70, the highest price at the hub since it was slightly higher the week of December 15. The Conway price also rose 1% to $1.59, its second-lowest price in 11 weeks.

While the growth for C_{5+} was less restrained than that for other natural gas liquids (NGL) this week, it continued to reach over two years at both hubs. The Mont Belvieu price of $2.20 represented less than a 1% growth at the hub, but it was the highest price in South Texas since it was $2.34 the week of September 3, 2008. The same held true for the Conway price as it had the highest value at the hub since the week of September 3, 2008. The 1% increase to $2.19 was the highest it had been since it was $2.25 the first week of September 2008. The less than 1¢ price gap between the two hubs' prices was the lowest since the week of February 24, 2010.

Conway propane was the lone NGL to lose value at either hub this week as heating demand was diminished because of continued warm weather. The price was down 1% to $1.24, the lowest price at the hub since it was $1.22 the week of December 8. Mont Belvieu propane was up very slightly to $1.34, the same price as two weeks prior. – Frank Nieto

PIPELINE NEWS

El Paso Declares Force Majeure Following Tennessee Gas Pipeline Explosion

Houston-based El Paso Corp. on February 11 declared force majeure on its Tennessee Gas Pipeline after a section of the line in Ohio exploded a day earlier. The explosion – which has since been contained – was caused by a leak at station No. 214 on the pipeline in Hanover Township, Ohio.

The company shut a portion of the pipeline in the region following the explosion and anticipates restricting flow rates as a result of the incident.

The 13,700-mile-long pipeline stretches from the Mexico border to Canada with a capacity of 7.2 billion cubic feet per day with supplies from the Gulf of Mexico, Texas, Appalachia and Canada to markets, including the U.S. Midwest and U.S. Mid-Atlantic states.

INTERNATIONAL NEWS

China Continues to Target Canadian Gas

Further expanding Asia's foothold in the North American shale gas sector, PetroChina International Investment Co. Ltd., a subsidiary of PetroChina Co. Ltd. has formed a 50/50 joint venture with Encana Corp. for a 50% stake in the Canadian gas producer's Cutbank Ridge gas-rich assets in British Columbia and Alberta.

At a total deal value of Cdn$5.4 billion (US$5.46 billion), the JV is China's largest Canadian upstream transaction ever recorded, based on data compiled by the *IHS Herold Global M&A Database*.

The transaction metrics are also rich, according to David Tameron, senior analyst at Wells Fargo LLC. "Assuming US$1 billion (gross) for the midstream assets, this equates to US$18,235 per thousand cubic feet equivalent (Mcfe) per day, US$4.65 per Mcfe proved, and US$7,200 per acre," he says in a Feb. 10 research note to clients.

"Metrics can and will be sliced different ways, but the bottom line is, in our opinion, (the) value exceeded market expectations," Tameron adds, also rating the deal as "positive" for another Canadian operator in its coverage universe. Using the Encana-PetroChina JV metrics, the Wells Fargo analyst suggests that this could value Forest Oil's Canadian assets between US$1.2- and US$1.8 billion.

M&A Market Heats Up With Chinese Deals

In North America, Asians accounted for some 10% of total deal value of US$190 billion from 2009 through 2010. And, Asian energy companies will continue to dominate the global upstream M&A market, Scotia Waterous' Adrian Goodisman indicated at a recent Independent Petroleum Association of America (IPAA) event in Houston.

"The national oil companies driven by the Asians will be the dominant buyers of hydrocarbons around the world," Goodisman said. "They have rapidly moved up the curve in international deal-making."

"Expect to see more of these partnership deals from the Chinese and North American companies, as the Chinese work to meet their need to secure supply," added Christopher Sheehan, IHS director of energy M&A research. Sheehan notes that securing energy supply, rather than price, was the key driver for PetroChina and the Chinese government in this recent transaction.

Meanwhile, Chinese companies continue to make aggressive M&A investments in the Canadian oil sands and have recently begun moving into the U.S. shales to gain knowledge on how to tap such resources in China – and to capitalize on the shale-gas bounty here, as well.

In June 2010, China's largest state-run oil company China National Petroleum Corp., or CNPC, joined forces with Encana Corp. to develop unconventional gas assets operated by the company in northeastern British Columbia for an undisclosed price.

The gas assets involved approximately 275,000 net acres in the Greater Sierra resource play, which includes the Devonian shale formation in the Horn River play; 1.7 million net acres covering the Jean Marie formation; and some 720,000 net acres covering the Montney formation.

Also in June 2010, Encana announced it was targeting annual joint-venture investments between US$1 billion and US$2 billion. The company holds more than 7.5 million net acres of undeveloped land in North America, and says it believes its leasehold can support approximately 23,000 drilling locations during a span of 18 years.

Canada, China Shake Hands Once Again

Encana's Cutbank Ridge assets comprise 635,000 net acres on the British Columbia and Alberta boundary and also include the majority of its Montney, Cadomin and other gas assets on a portion of these properties. Midstream assets consist of some 700 million cubic feet per day of processing capacity, 3,400 kilometers of pipelines and the Hythe gas storage facility.

Daily production from the Cutbank Ridge assets is currently 255 million cubic feet equivalent per day. Providing additional upside to the deal, proved reserves amount to 1 trillion cubic feet of natural gas equivalent.

Per the JV terms, each partner is expected to contribute 50/50 to future development capital requirements, with Encana operating the JV assets and marketing their production.

"By combining resources with PetroChina in this joint venture, we would expect to recognize additional value through accelerating our pace of development and by leveraging increased capital and operating efficiencies through further technical advancements and through greater certainty of the long-term development plan for the business assets," notes Randy Eresman, Encana president and chief executive.

– **Nancy Miller,** *from Hart Energy's Oil and Gas Investor*

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